

Environmental Management Performance Report

September 2002



**Pacific Northwest
National Laboratory**

Operated by Battelle for the
U.S. Department of Energy



Department of Energy
Richland Operations Office

PREPARED FOR THE U.S. DEPARTMENT OF ENERGY, RICHLAND OPERATIONS OFFICE
OFFICE OF ENVIRONMENTAL MANAGEMENT

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This document provides the Department of Energy Richland Operations Office (DOE-RL) with a report of the Pacific Northwest National Laboratory (PNNL) performance by Battelle Memorial Institute and its subcontractors.

In Section A, the Executive Summary, text and graphics report the safety metrics status for all PNNL activities. Senior management's overall performance assessment of all Environmental Management activities conducted at PNNL is presented in a stoplight chart.

Section B, Project Performance Summary, provides a brief summary of the month's performance for the PNNL lead activity, PNNL Waste Management (PBS RL-SS01), and is presented in the narrative and Cost / Schedule Performance Stoplight. More detailed information can be found within PNNL-7911-124a, PNNL's Quarterly Project Status Report, for the fourth quarter of Fiscal Year (FY) 2002. Summary analyses pertaining to PNNL's support to other Project Baseline Summaries (PBSs) are addressed in the contractor's report having lead responsibility for that scope.

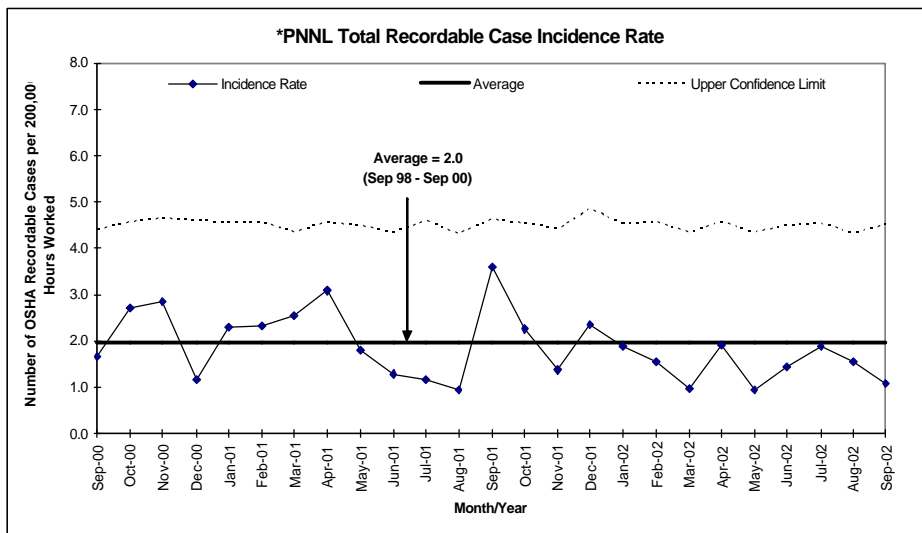
Unless otherwise noted, information in this report is current as of September 30, 2002.

This section provides an executive-level summary of performance information and is intended to bring to management's attention that information considered to be most noteworthy. This section includes an overview of safety performance and assessment stoplight charts.

Safety Overview

The focus of this section is on documenting trends in lab wide work-related injury and illness rates. These are the same performance indicators as appear in the FY 2002 Battelle Performance Evaluation and Fee Agreement, which is part of the PNNL Operations Contract. The monthly rates for Recordable and Lost Workday cases are presented graphically in this section and are monitored for statistically significant changes. Current efforts to improve performance are being made through the implementation of the Integrated Safety Management System (ISMS) and Voluntary Protection Program (VPP).

Total Recordable Case Incidence Rate



FY 2002 Rate Overview:

Cumulative To Date = 1.6
 Lab Specified Level ≤ 2.2

This indicator has been generally stable over the long term and the data for FY 2002 to date fall within the anticipated control limits. The cumulative rate for FY 2002 is below the Lab Specified Level for the fiscal year.

The following rating reflects the overall assessment of recordable case incidence for PNNL.
 (Narrative not required when rating is green.)*Includes all PNNL Operations.

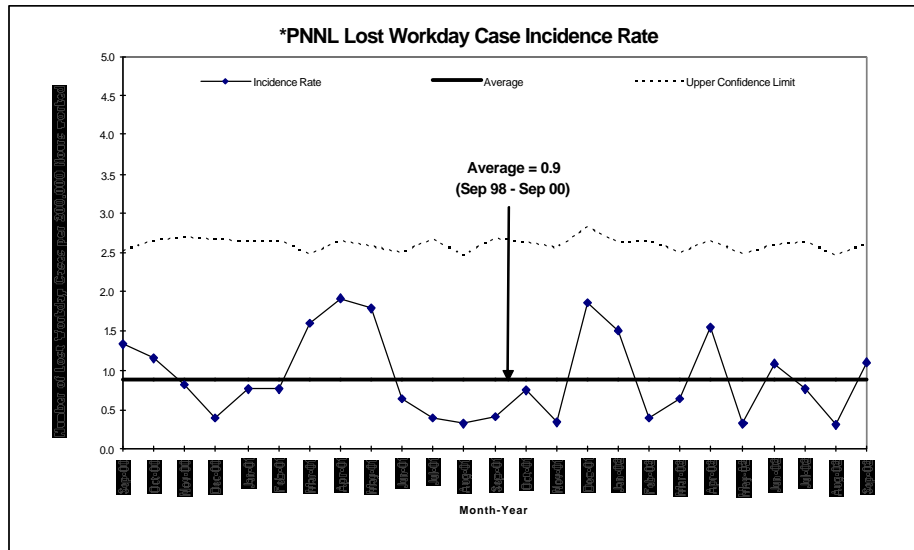


Green: Satisfactory

Yellow: Significant improvement required

Red: Unsatisfactory

Lost Workday Case Incidence Rate



FY 2002 Rate Overview:

Cumulative To Date = 0.8
 Lab Specified Level ≤ 1.1

This indicator has been generally stable over the long term. The data points for FY 2002 to date fall within the anticipated control limits. The cumulative rate for FY 2002 is below the Lab Specified Level for the fiscal year.

The following rating reflects the overall lost workday case incidence for PNNL. *(Narrative not required when rating is green.)* *Includes all PNNL Operations.



Green: Satisfactory

Yellow: Significant improvement required

Red: Unsatisfactory

ISO 14001 Registration

An onsite review was conducted during the period of September 24th – 27th and resulted in the Pacific Northwest National Laboratory (PNNL) being recommended for registration in the ISO 14001 Environmental Management System standard. PNNL expects to receive the registration certificate this coming December.

This section provides cost and schedule performance, any significant issues, and baseline change request information for the period covered, and quarterly status on baseline performance outcomes, objectives, and measures. In FY 2002, Battelle Memorial Institute has lead responsibility over PBS RL-SS01, PNNL Waste Management WBS 3.4.1.7.

Mission

WBS 3.4.1.7 provides PNNL with waste management services and compliant operations in support of science and technology development for the multiprogramming needs of the U.S. Department of Energy (DOE) Complex. These services include:

- Essential surveillance and maintenance of DOE laboratory facilities assigned to PNNL for safe containment of radioactive and hazardous materials.
- Infrastructure required to manage wastes and effluents currently generated at the PNNL.
- Operational compliance services to meet regulatory requirements and operating permits including environment, safety, and health regulations.
- Management of legacy wastes and contamination remaining from past PNNL research operations.

Activity Summary

The following summarizes the activities associated with PNNL Waste Management services and operations conducted during September 2002.

- During September, activities pertaining to the surveillance and maintenance of all shutdown facilities were accomplished as planned and all radiological surveys were completed as scheduled. The demolition of the 331-B dog run and kennel facility was completed. The 1614-D3 and 1615-D3 buildings were demolished. Two facilities were closed and put into “cheap-to-keep” status (213-J and 6652-3).
- All required radiological air samples were completed as scheduled. Nuclear material holdings in all Material Balance Areas (MBA) were reviewed with MBA Custodians. Approximately 15% of the Nuclear Material labels were verified and the total MBA inventory was compared to criticality safety inventories on the Continuous Fissionable Material Inventory (CFMI) logs. Only one minor observation was noted and it was corrected before the end of the month. On September 12, 2002, the August 2002 Discharge Monitoring Report (DMR) for the Environment Molecular Sciences Laboratory was submitted to the City of Richland in

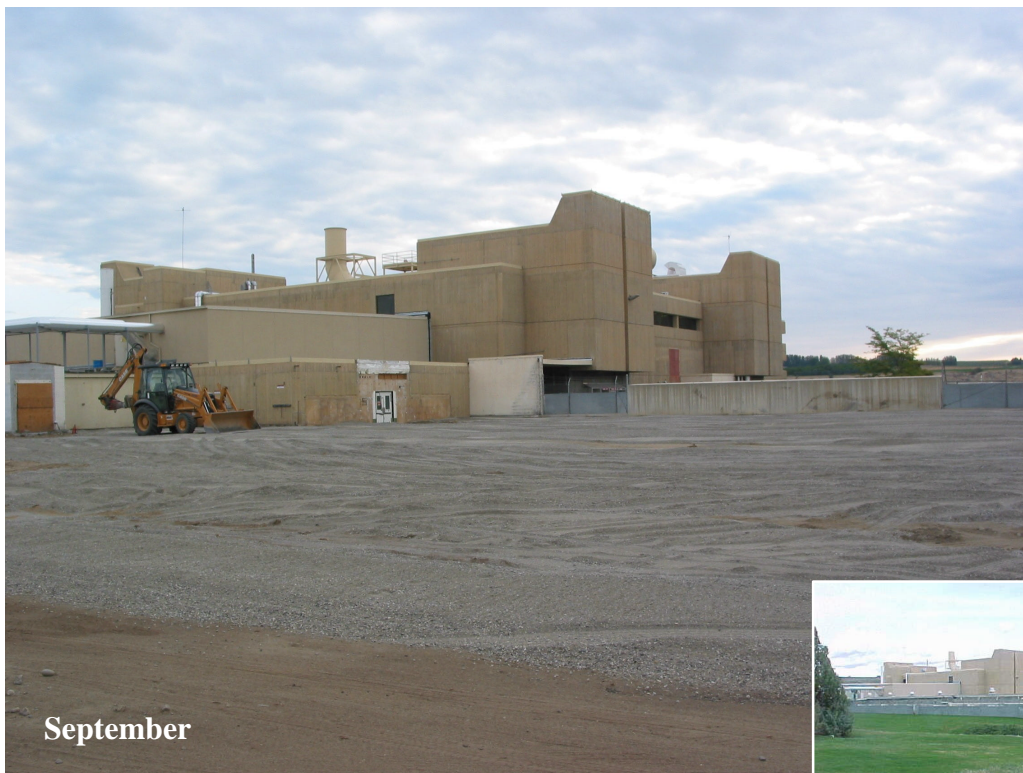
accordance with Part III, Section A of Industrial Wastewater Discharge Permit # CR-IU005. The August 2002 DMR covered the reporting period of August 1 to August 31, 2002. The DMR presented the analytical results for all parameters that required monthly monitoring. All measured parameters were within permit levels. This was the last submittal for FY02, completing milestone RLSS01F201, “Demonstrate Compliance with Industrial Wastewater Permit Limits for EMSL.”

- During September, 124 NEPA reviews were performed. The monthly review of PNNL’s Chemical Inventory confirmed PNNL remains below the Threshold Planning Quantity (TPQ) reporting levels for all toxic chemicals. The Hazardous Waste Operations Task Staff picked up 640 DOE waste items. This resulted in more waste items picked up in one month than any other month in the year. In addition, the Hazardous and Miscellaneous Waste Operations Staff shipped 50 items (1304 kgs) during the month. The Packaging and Transportation staff members supported 39 shipments including 8 radioactive shipments offsite, 10 radioactive shipments onsite, and 21 hazardous material shipments onsite and offsite. A shipment of six high dose transuranic (TRU) drums was successfully completed using the newly approved Safety Analysis Report for Packaging (SARP). Radioactive Waste Operations staff treated 627 kg in the Hazardous Waste Treatment Unit (HWTU) and met the defined criteria of accepting and billing of radioactive waste prior to the implementation of waste charge back. This was a very large accomplishment for Radioactive Waste Operations and the Laboratory. PNNL’s Environmentally Preferable Custodial Products Team won both the “White House Closing the Circle Award” and a DOE National Pollution Prevention Award for Environmental Preferability. The city of Richland staff members and two Washington State Department of Ecology offices nominated PNL for the Governor’s Award for Pollution Prevention and Sustainable Practices. PNNL was selected as a finalist in the competition. The Pollution Prevention (P2) Pays Pollution Prevention Investment Fee collected and disbursed a total of \$56,230 to projects in FY 2002.
- Approximately 40 legacy waste projects and tasks were undertaken in FY 2002. Work was performed on 13 projects during the month of September. The legacy work this fiscal year has resulted in over 350 disposal requests. Fourteen projects have been completed, including final shipment, and 20 projects are completed and only await shipment. These projects represent hundreds, if not thousands, of individual legacy items that have been collected, consolidated, sampled, and packaged for disposal. During September, work continued to treat the reactive sodium waste in RPL. Non-destructive assay was performed on four containers to identify the radionuclides for disposal. Activities continued on cleanout of room 55A in RPL. Staff also continued with accelerated FY03 work on the cleanout of the 604 glove box in the RPL, the removal of 200 area towers, and Bowling Ball cask remediation issues. The ICP unit and attached glove box and all associated equipment were removed from service, packaged for final shipment and sent to the Central Waste Complex. The large LP-1 Pu source repackaging was completed in FY-02 and the source was placed in the 5320 shipping cask. The cask is waiting for the arrival of a safe secure transport (SST) vehicle to move it to Los Alamos National Laboratory. Two other Pu sources were packaged and made ready for disposal. The final five drums of special case waste were packaged and shipped in FY-02. This completed the PNNL portion of TPA milestone 92-16, four years ahead of schedule.

- One objective of the 331B Dog Run Demolition project was to optimize the diversion of material from disposal to reuse and recycling. This meant significantly increasing the fraction of material salvaged for reuse/recycle without significantly increasing the cost to the project. Through the end of fiscal year 2002 a total of nine semi trailers of material were collected from the project and sent off for reuse/recycle. These included six trailers of scrap metal totaling 86,460 pounds, and three trailers of material and equipment salvaged for reuse (estimated weight 43,230 pounds).

The revenue generated from the sale of the scrap metal was \$4065, while the revenue generated from the sale of materials salvaged by the Tri-City Asset Reutilization Contractor (TARC) for auction is yet to be determined. The total life-cycle cost avoidance for the 129,690 pounds (58.95 metric tons) of material recycled/reused from this project is \$26,351. The DOE life-cycle cost avoidance values contained are not all direct project cost savings, but rather life-cycle savings that accrue to the entire DOE system when waste disposal is avoided in favor of source reduction, material reuse, or recycling.

The total gross revenue and cost avoidance to DOE as a result of optimizing recycling/reuse during this project is \$30,416. The cost to the project to pursue recycling/reuse over disposal is estimated at \$8,000. The net revenue and cost avoidance to DOE resulting from the recycle/reuse of material in place of disposal on this project is \$22,416.



Performance Data and Analysis

As of September 30th, 2002, the cumulative costs are \$14.8M with a positive cost variance of \$1.1M (7%) and a cumulative schedule variance of negative -\$0.2M (-1%). The cumulative cost variance is largely due to labor costs, specifically, unfilled vacancies and programmatic efficiencies. This variance extended through fiscal year end and completed under budget. All carryover dollars will be used to cover anticipated FY03 funding shortfalls.

The cumulative schedule variance is due to delays with the 331-B Building demolition, updating the Facility Effluent Monitoring Plan (FEMP) documents and self-assessments, and delays in conducting stack studies under the Radiological Air Emissions Task. All other project scope was completed as scheduled.

Cost Performance (\$M):			
	BCWP	ACWP	Variance
PNNL Waste Management	\$15.9	\$14.8	\$1.1
Schedule Performance (\$M):			
	BCWP	BCWS	Variance
PNNL Waste Management	\$15.9	\$16.1	(\$0.2)

FY 2002 Cost/Schedule Performance - All Fund Types **Cumulative to Date Status - (\$000)**

WBS	PBS	BCWS	BCWP	ACWP	CV	%	SV	%
3.4.1.7	RL-SS01	<u>\$16,080</u>	<u>\$15,876</u>	<u>\$14,760*</u>	<u>\$1,116</u>	<u>7</u>	<u>(\$203)</u>	<u>-1</u>
Total		<u>\$16,080</u>	<u>\$15,876</u>	<u>\$14,760*</u>	<u>\$1,116</u>	<u>7</u>	<u>(\$203)</u>	<u>-1</u>

*PNNL has \$1.194M carryover, is expecting \$15.044M new B/A in FY 2002, for a total of \$16.238M. Current new B/A obligated is \$15.044M.

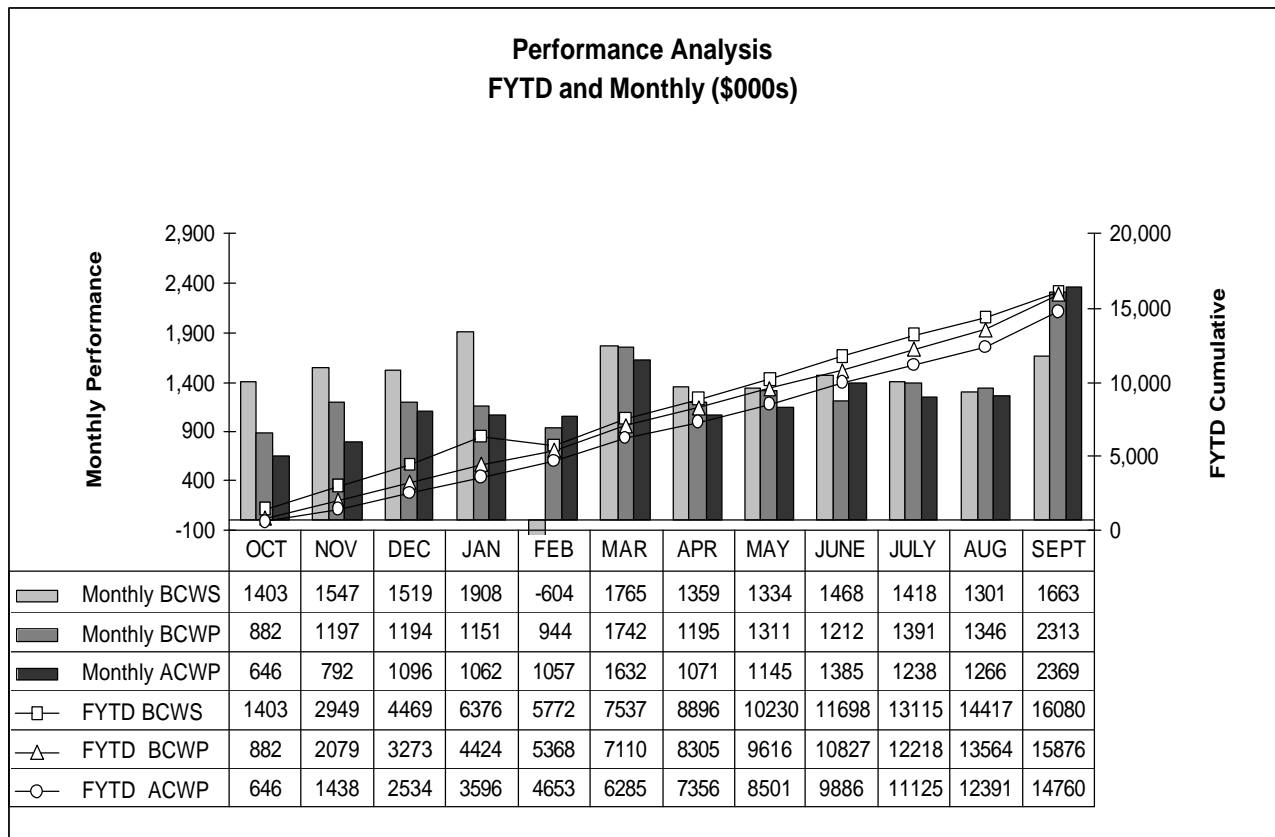
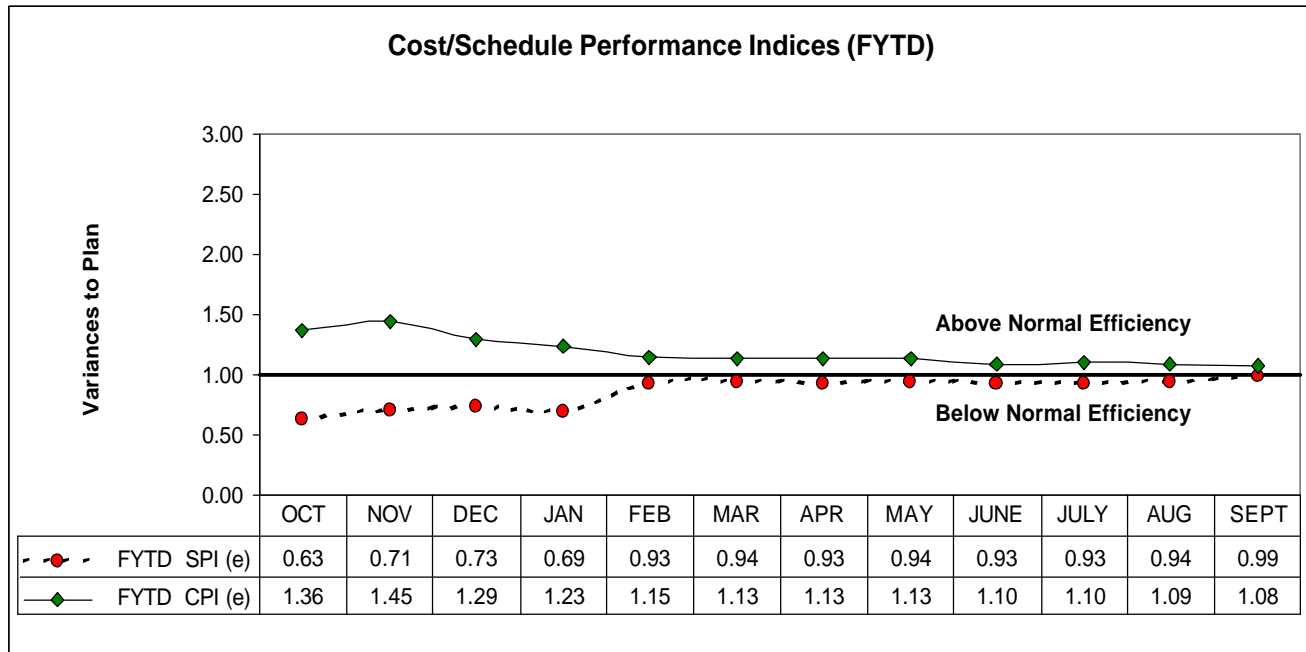
Cost/Schedule Performance Stoplight

The following rating reflects overall cost and schedule performance for PNNL Waste Management activities. *(Narrative not required when rating is green.)*

The cumulative cost variance is within the reporting threshold.	GREEN
The cumulative schedule variance is within the reporting threshold.	

Green: Satisfactory	Yellow: Significant improvement required	Red: Unsatisfactory
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PNNL Performance Data and Analysis



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Section B - Project Performance Summary

RL Objective	RL Multi-Year Performance Measure	Performance Measure	FY 2002 EM Commitment Y/N	TPA # CMM#	FY 2002
RL Outcome: Put DOE assets to work for the future					
Operational Excellence Status:	Operate in a manner conducive to excellence and quality	Conduct routine operational activities to comply with statutory and regulatory requirements, specifically number of non-compliances related to environmental permit requirements There were no Notice of Violations (NOVs) issued to PNNL during the fourth quarter of FY-2002. Resulting in a total of zero NOVs for FY-2002	No		<2
Operational Excellence Status:	Operate in a manner conducive to excellence and quality	Maintain fiscal year end cost and schedule variances within established thresholds The WMOC Program cumulative cost variance (CV) is \$1117K (7%). The cumulative schedule variance (SV) is \$-203K (-1%). Both are within the established performance thresholds.	No		+/- 10%
Safety Status:	Protect workers, the public and the environment	Initiate appropriate response to any unsafe condition identified during surveillance and maintenance of EM facilities assigned to PNNL within x days of discovery (as shown to the right) To date surveillances have not identified any unsafe conditions in shutdown facilities. Only minor maintenance items have been noted and they have been appropriately addressed with service requests. No unsafe conditions have been discovered in RPL that have resulted in an appropriate response initiation greater than one day. Any unsafe condition discovered in RPL is addressed immediately.	No		1
Safety Status:	Protect workers, the public and the environment	Quantity of HAZ waste (MT) shipped for storage or disposal During the fourth quarter of FY 2002, 8,089 Kgs. of non-radioactive hazardous wastes were shipped. A total of 26,890 Kgs. have been shipped for offsite treatment and disposal this fiscal year. This exceeds the expected target for FY 2002.	No		25,000 kg/FY
Safety Status:	Protect workers, the public and the environment	Quantity of RMW (m ³) shipped for storage or disposal. During the fourth quarter of FY 2002, 12.4 cubic meters of RMW (Mixed Waste) were shipped for a total of 23.75 cubic meters for the fiscal year. This was 95% of the expected target for FY 2002.	No		25

RL Outcome: Put DOE assets to work for the future					
Safety	Protect workers, the public and the environment	Quantity of LLW (m ³) shipped for storage or disposal	No		125

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Status:		During the fourth quarter of FY 2002, 7.73 cubic meters of LLW (Low Level Waste) were shipped for a total of 43.74 cubic meters for the fiscal year. This is below the expected target for FY 2002, and is a result of expediting the shipments HAZ and TRU waste.			
Safety Status:	Protect workers, the public and the environment	Quantity of TRU waste (m ³) shipped for storage or disposal During the fourth quarter of FY 2002, 2.7 cubic meters of TRU (Transuranic waste) was shipped for a total of 20.34 cubic meters for the fiscal year. This exceeds the expected target for FY 2002.	No		8
Safety Status:	Protect workers, the public and the environment	Radiochemical Processing Lab (RPL) Authorization Basis maintained current per scheduled milestone FY 2002 annual update was approved by DOE-RL on 30 August 2002. Implementation of this update will be completed in the first quarter of FY 2003.	No	RLSS01R204	7/31/02
RL Outcome: Restore the river corridor for multiple uses					
Waste Disposal Status:	Dispose of Legacy Waste	Percent completion of annually scheduled legacy waste projects. Up through the fourth quarter of fiscal year 2002, > 90% of the Legacy Waste Projects have been completed.	No		>90%
Waste Disposal Status:	Disposal of Special Case Waste Complete	Support timely completion of TPA M-92-14: Complete disposition of PNNL Special Case Waste. The waste was shipped in March 28, 2002. Completing this performance outcome.	No	RLSS01L211	03/30/2002 03/28/2002
Reduce risks to the Columbia River from ground water contamination Status:	Number of soil sites addressed	Percentage of Waste Identification Data System sites characterized and associated surveillance/maintenance established. All waste sites have basic characterization data and identified S&M is being accomplished.	No		100%